

EFFECTS OF APPLYING BLOGS TO ASSIST LIFE EDUCATION INSTRUCTION FOR ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

The purpose of this study aims to explore the effects of applying blog-assisted life education instruction to fifth-grade elementary school students. The subjects were 30 fifth-grade students from southern Taiwan. The teaching experiment lasted 10 weeks with three sessions conducted each week. In the experiment, instructional effectiveness and the students' life values were measured by the Life Education Values Scale, the Learning Effectiveness Scale, the Learning Attitude Scale, an e-portfolio, the students' learning sheets, blog articles, the observation records of the teachers' instruction, and the teachers' reflection journal. The findings of this study show that the blog-assisted life education course is effective for higher-grade elementary school students. Additionally, the students' information literacy and interests can be improved through e-portfolio in a blog-assisted life education course. Moreover, the students' information literacy and competence, course satisfaction, collaborative learning attitudes, and attitudes toward blog use are improved. Finally, the students' life education values are significantly enhanced through the blog assisted instruction in this study.

Keywords: blog-assisted instruction, collaborative learning, life education, e-portfolio

INTRODUCTION

In 2009, the typhoon Morakot seriously damaged southern Taiwan and reminded people of the impermanence of life and the power of nature. Life education has been carried out for 10 years, but we still encounter some careless parents who kill themselves by carbon monoxide poisoning when burning charcoal with their children. Students are helpless regarding their future. When measuring Taiwan's competitiveness on the national happiness index, will the effectiveness of life education be the key? Life should not be treated as a slogan. It should be celebrated, and people should cherish themselves, respect others, and demonstrate life values (N, Y. Huang, 2010). Life education must be based on instruction for children, and positive personalities should be constructed in elementary school. Daily life practices depend on reflecting on life through life education (Lee, 2007).

With the rapid advances in technology, blogs have various applications. Isman (2012) pointed out that educators are increasingly using technology in all aspects of their profession. Specially, blogs are free and easy to use. They record learning processes and share feedback. Blogs not only provide a learning environment but also effectively construct paths for communication between teachers and students and encourage collaborative learning among classmates. Su (2008) suggested that use of blog does not require advanced knowledge; however, as an interactive platform, it can have the characteristics of a class operated by teachers. Chuang (2005) indicated that blogs are extremely suitable for innovative instruction and that they are good collaborative learning tools. Blogs also provide a feature that enables readers to visit the entire posting history, making it is easy to track an individual's learning progress or to maintain a reflective record over a period of time (Killeavy & Moloney, 2010; Wang & Hsua, 2008; Wheeler & Lambert-Heggs, 2009). Among various learning methods, collaborative learning best encourages the students' cooperation, and it results in dependent and active relationships. Group discussions, communication, and the sharing of results and experiences will not only enhance positive interpersonal interactions, but also enhance learning effectiveness.

Traditional learning poses the challenge of handling a great amount of data, as reorganizing and keeping portfolios is complicated.

In the E-era, through computer technology, learners can create, save, reorganize, and maintain portfolios and even share them with others. Learning activities are no longer limited to classrooms. Blogs can be used to share portfolios and save learning processes, and are also suitable for portfolio recording. Through the implementation of a life education course with blog-assisted instruction for fifth grade students in an elementary school, this study intends to allow students to learn about life's meanings and values in a collaborative environment under the instructor's guidance. Students learn to love themselves and others, to respect themselves and others and to care for society and nature. Through blogs, the students' learning process of the life education course can be recorded. Therefore, this study aims to investigate higher-grade elementary school students' blog-assisted life

education instruction, to explore the effectiveness of implementing blog-assisted life education, and to assess how students' life education values change after experiencing the blog-assisted life education course.

LITERATURE REVIEW

Life education

Over the past few years, life education has become an important subject in Taiwan. Chang (2006) defined life education as the study of life and death and suggested that life education should be part of the educational curriculum. Students should learn about and respect their own and others' lives and should create a wonderful life as well as to enhance their quality of life. According to Hung (2009), the core of life education is to learn to cherish time, resources, and life. Prior studies tended to divide life education into education about self-realization, cherishing life, mutual respect, holistic study, sympathy, tolerance, and putting into practice. Additionally, the purpose of life education is to teach students self-respect, career planning, gratitude to others, mutual respect, care for nature, environmental protection, and sustainability (Wu, 2009). Huang (2008), Wang (2009), and Lu (2009) adopted a quasi-experiment including field language or picture book instruction to explore the effects of life education for higher-grade elementary school students. To date, no prior studies adopted blogs to assist in teaching life education for younger children were found in literature. Thus, this study aims to explore the effects of life education values, learning attitudes, and learning effectiveness of the fifth grade students by using blog-assisted instruction to life education course.

Blog

Blog is an abbreviation for weblog, which is a personalized online media, allowing individuals to share personal information and interact with each other (Lou, Wu, Shih, & Tseng, 2010). Because a blog does not require significant technical skills to navigate, users can easily express their opinions on a webpage, post articles, upload photos and videos, and interact with readers. Liao (2007) suggested that it is feasible to introduce blogs to the higher-grades of elementary schools because blogs have a complete functionality. Students will not spend much time learning how to operate them because they are easy and convenient to use. According to Chen (2006) and Su (2008), the methods for using blogs as an instructional application include utilizing blog as a teacher's professional platform, a medium of communication between teachers and students, an e-Portfolio, a platform for class operation and management, and a means of integrating courses. Many prior studies have identified blogs' potential to enhance student learning (Churchill, 2009; Ducate & Lomicka, 2008; Ellison & Wu, 2008; Liu, et al; Shim & Guo, 2009; Xie, Ke, & Sharma, 2008). For example, blogging has been shown to contribute to perceived learning for a majority of students in a variety of contexts (Churchill, 2009; Ducate & Lomicka, 2008). Moreover, studies on the educational use of weblogs indicate that blogs can be effectively applied to education and thus enhance students' learning attitudes (Du & Wagner, 2005; Glogoff, 2005; Birney, Barry & Eigearthaigh, 2006; Ebner & Maurer, 2007; Hall & Davidson, 2007; Lou et al, 2010; Shih, 2010).

Additionally, some previous studies on blogs mostly focused on elementary school students' learning (Wu, 2007; Wang, 2007; Su, 2008). Some of them focus on computer learning; some focus on class operation; and some emphasize reading instruction. Hall and Davidson (2007) suggested that blogs improved students' writing skills, which is evidence of the flexibility of blogs. Amir, Ismail, and Hussin (2011) concluded that blogs offer students a high level of autonomy to interact with peers as well as benefit students by allowing them to share their collaborative writing in an interactive social environment. To date, no research supporting life education courses using blogs has been conducted. Thus, building upon the characteristics of blogs, the present study enables students to use technology, increase their literacy in information use, and enhance their life education values.

Collaborative learning

Collaborative learning is an educational approach which involves groups of learners working together to solve a problem, complete a task, or create a product (Gerlach, 1994). It is based on the constructivist theory of learning, which asserts that people are active learners and must construct knowledge for themselves (Geary, 1995) via interaction between the individual and the environment (Schunk, 1996). Collaborative learning also suggests grouping students according to gender or competence. Students can be divided into groups of 4 to 6 members according to their gender, race, competency, and social economic status in order to provide them more opportunities to interact with each other and share experience and opinions with others in order to accomplish the learning objectives (Yang, 2006). The characteristics of collaborative learning, therefore, are defined as heterogeneous grouping, dependency, face-to-face interaction, personal responsibility, social skills, and group process (Huang, 2001; Johnson, Johnson, & Holubec, 1994; Slavin, 1995). With the prevalence of the Internet, collaborative learning using online multimedia has become the new model of learning. Additionally, collaboration can be supported for different instructional ideas and computer applications, and thus interaction methods have been proposed (Crook, 1994). Generally, any interaction through computers has to be led and

mediated by a tutor or a group of tutors (Vuopala, Hämäläinen, & Lindfors, 2007). Sun and Lin (2007) suggested that online collaborative learning means turning the students' face-to-face learning situation into a computer technology-assisted learning situation.

Computer-assisted collaborative learning was a combination of computer supported collaborative work and cooperation concept. It was designed to provide learners assistance and resources while learning. Learners can learn and interact with peers and instructor as well as exchange information through internet (Wikipedia, 2012). By employing this new type of collaborative learning approach, learners will be no longer isolated while learning. Instead, they can discuss, collaborate, cooperate, and share ideas with peers to solve problems and complete their tasks. Lung (2006) concluded that online collaborative learners' learning achievement and attitude tend to be better than the traditional learners. Online collaborative learning emphasizes the learners' cooperation. The courses and assignments all stress the learner's cooperation. Students are divided into groups. With their colleagues' and teachers' interaction and assistance, they accomplish the tasks of the group with forums and e-mails.

Liaw, Chen, and Huang (2008) reported that web-based collaborative learning systems allow more opportunities for learners to participate without limitations on their level of knowledge. Collaborative learning strategies (e.g., group learning and cooperative learning strategies) can be applied to many instructional scenarios (Bravo, Redondo, Ortega, & Verdejo, 2006; Hwang, Wang, & Sharples, 2007; Wang, 2009). Thus, in the present study, life education refers to online learning that allows students to discuss, communicate, and share their information and ideas with each other and thus to enhance learning effectiveness through positive teacher-student interactions.

E-Portfolio

In education, a portfolio refers to a "process folio." The construction of students' portfolios allows teachers and students to recognize the learning process and learning outcomes to enhance feedback and interaction between teachers and students. Portfolios allow students to recognize their learning obstacles and problems (Chang & Tung, 2000). A learning portfolio covers the multi-faceted nature of the learning process, which empowers teachers and learners to engage in reflection and self-examination (Chang, 2001; Chang & Tseng, 2009a). Every learner can design a personal portfolio to demonstrate his or her learning process and outcomes by collecting data on specific themes (Li, 2001). With the progress of computer technology, an e-Portfolio has been developed. According to Mei (2006), an e-Portfolio is a portfolio that is saved through digital measures by computers or over the Internet. Chang & Tseng (2009b) stated that a web-based portfolio assessment is particularly instrumental in sharpening students' peer assessment skills. It is created through several steps including formulating the problem, developing forward-looking adapted solutions, testing the solution, and using tools such as mind mapping that may foster creativity (Forster, 2009).

An e-Portfolio is a structured collection of data chosen by its author to meet certain objectives. It is not necessarily shared with others, as its main function is to allow reflexive analysis by the author on his or her own activities (Schön, 1983). The digital feature not only helps to achieve a hierarchical structure but also allows a hyperlink structure to be designed to incorporate changes (Metza & Albernhe-Giordana, 2010). Yueh and Wang (2000) pointed out that e-Portfolio can enhance instructional quality, instruction, and learning as well as to increase learners' autonomy, improve information literacy and competence, and save space for work. Moreover, e-Portfolio is learner-centered, realistic, and it is a good media for communication. Thus, using e-Portfolio in life education instruction allows students to preserve their portfolios and increase information flow and sharing. For teachers, using e-Portfolio can enhance professional knowledge and skills. Therefore, this study anticipates that students can better understand themselves, respect others, care for others, and cherish things. Thus, the students will be able to have appreciation for society and nature through the learning of life values in e-Portfolios with blog-assisted life education instruction

RESEARCH METHOD

Research structure and design

This study aimed to explore the effects of applying blog-assisted instruction to life education course for fifth grade elementary school students. The research framework is shown in Figure 1.

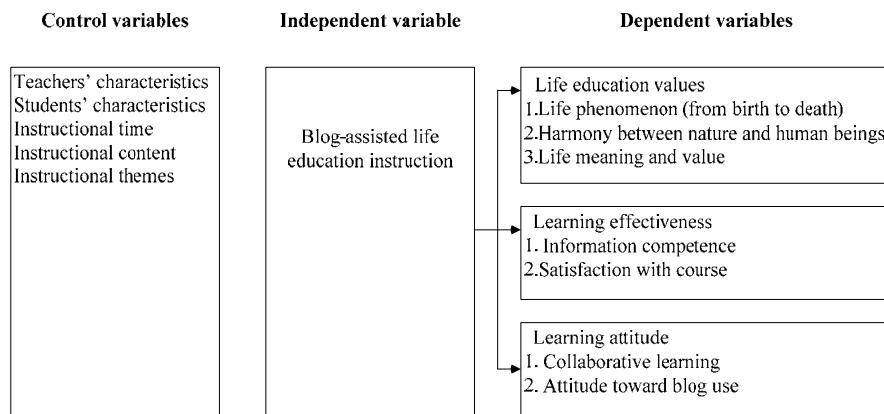


Figure 1. Research framework.

This study employed a quasi-experimental approach. The experiment variable was blog-assisted life education instruction; the dependent variables were life education values, learning effectiveness, and learning attitudes. A pretest and a posttest of “The life education values scale” were employed to the fifth grad students before and after the teaching experiment. “The blog-assisted life education learning effectiveness scale and attitude scale” was also employed. Heterogeneous grouping was adopted according to the students previous years’ performance in subjects of language, comprehension, and art and humanities. A total of 29 students (15 males and 14 females) were divided into 7 groups. The experiment lasted 10 weeks with 10 instructional themes, including Song of Life, Who Am I, It’s Good to Have You, Love’s Everything, No More Vagabond Life, It’s Not My Fault, Warming Earth, I’m Little Volunteer, Pass Love Forward, and Dreams Come True.

The instructional steps consisted of implementation and completion. In the beginning of the course implementation, the students were taught face to face with film appreciation, experiential activities, Q & A, and group discussions, followed by the blog learning. The students could post their opinions and thoughts to share with others. The instructor observed and recorded the students’ online interactions between groups. During the instructional sessions, the instructor provided assistance to the students or guided them as needed. At the final stage of the instructional steps, the students had to post 10-time learning records of computer-assisted life education on the blogs, containing teaching materials, their own articles, the instructor’s feedback and comments, and some of the students’ fine works. Through this step, not only the instructor could observe the students’ learning, the students also were able to observe the students and understand their personal growth and life values. Figure 2 shows the instructional steps.

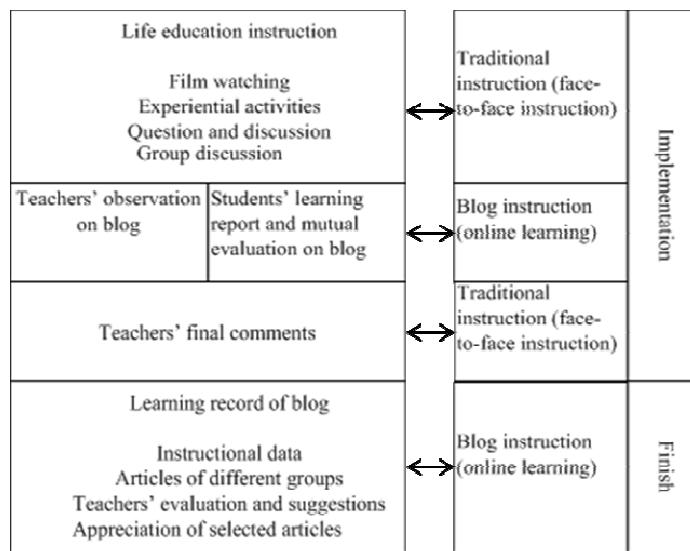


Figure 2. The instructional steps for the blog-assisted life education course

Research questions

The research questions are listed as follows:

1. What is the ideal instructional model of blog-assisted life education course for elementary school students?
2. Can blog-assisted instruction significantly enhance the elementary school students' attitudes toward life education?
3. Can blog-assisted instruction significantly improve the elementary school students' learning effectiveness?

Research tools

The life education values scale

The Life Education Values Scale in this study was adopted from Nien's "The Life Education Values Scale" (2009, p. 219). The original subjects in Nien's study were second grade students. Three university professors carefully examined Nien's original scale and agreed that the scale was suitable for the fifth grade students in this study. The 5-point Likert scale questionnaire contains 29 questions including 9 questions in life phenomenon (from birth to death), 10 questions in harmony between nature and human beings, and 9 questions in life's meaning and value.

The blog-assisted life education learning effectiveness scale and the blog-assisted life education learning attitude scale

Both the blog-assisted life education learning effectiveness and attitude scale were constructed by the researchers. Then Delphi technique was used to establish the content validity. Two university professors and three senior and experienced teachers in life education field validated the scales. After the 3 rounds of revisions on the scales, the formal versions of the scales were established. The learning effectiveness scale contains 21 questions, including 10 questions for information literacy and 11 questions for course satisfaction. The learning attitude scale contains 21 questions, including 12 questions for collaborative learning and 9 questions for attitude toward blog use.

E-Portfolio scoring

E-Portfolio scoring contains the following three domains: organization, content, and creativity of the blog articles. These three domains were established by the instructor (researcher) and one senior instructor in the field. A 5-point Likert scale was adopted to assess the 10 articles on the blogs of 7 different groups. The instructor (researcher) and the senior scored the articles. In order to establish the inter-rater's consistency of scoring and its reliability, the Spearman Rank Correlation was conducted. The scores for organization, content, creativity, and overall performance reached the significance level of .05, indicating the two scorers' scorings were consistent.

The platform for blog articles

Uschool was used as a blog platform for the students to share outlines and reflections on the 10 themes of life education. An entry page of the blog platform and a sample of a teacher's comment and a student's follow-up feedback are shown in Figures 3 and 4.



Figure 3. The entry page of the blog platform (in Chinese)



Figure 4. A sample page of the instructor and a students' comments and feedback (in Chinese).

The quantitative data include descriptive statistics, paired sample t-tests, and one sample t-test. Qualitative data include an instructional observation records an interview before and after the experiment, learning sheets, articles on the blogs, and a portfolio evaluation. The researchers reorganized all of the data, identified the information associated with the theme instruction and adopted the quantitative analysis to enhance the students' life education values.

DATA ANALYSIS AND RESULTS

Analysis of the instructional and learning processes

Table 1 shows the summary of the 10 samples for the life education learning analysis. The results show that the changes in attitudes toward life in the 1st, 5th, and 10th topics.

Table 1: Change in students' attitude toward life.

Topic of different times	Change in attitude toward life
Topic 1: Song of life	<ul style="list-style-type: none"> 1. When watching the film, students are surprised by the great work of childbirth. 2. In an experiential activity, a child with difficulty concentrating keeps complaining about his tiredness. The activity time is reduced because of his agitation. 3. During the question and discussion, a student who was afraid when watching the childbirth film shares her feelings in the discussion. 4. After the activity, the group discussion begins. The leaders guide the members to discuss the outline of the course and their reflection on their learning. 5. During the blog instruction, the students' typing speed is slow, and only a few groups can accomplish it within the scheduled time; some groups even have disputes.
Topic 5: No more vagabond life	<ul style="list-style-type: none"> 1. When watching the film and the animation, the students feel that the owner of the stray dog is too cruel. They think that the owner should take good care of the dog until it dies. 2. When sharing their opinions about the outcome, most of students hoped that Willy could have a happy ending, and only few of them expected the mercy killing. 3. During the question and discussion, the students realize that it is not easy to take care of a dog and that they should be devoted and caring. 4. During the portfolio, some leaders are uncomfortable because they write every session. They expect others to take turns. 5. During the blog instruction, the students look forward to playing computer games. Some make mistakes and cannot play the game. However, no one complains to avoid arguments.
Topic 10: Dreams come	<ul style="list-style-type: none"> 1. When watching the film, the students recognize the continuous series of natural disasters that have occurred in recent years and appreciate the phenomenon of life. 2. In the interview, students answer the seniors' questions seriously to obtain key responses and benefit their future.

true	<ul style="list-style-type: none"> 3. During the question and discussion, although students are confused about death, loss or separation, they still show sadness. 4. During portfolio, the discussion of the groups is rapid. They make significant progress and can submit the discussion sheets immediately. 5. During blog instruction, once the groups are in the computer classroom, they immediately and calmly accomplish their work. Given the previous wonderful experience, the groups realize that they can play games right after publishing the articles and sharing.
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Although there were different themes each week, the changes in attitudes toward life show that the students made gradual progress in their attitudes toward and communication about the concepts. Using disputes and communication, the groups adopted a collaborative learning style and developed interpersonal relationships through discussion and sharing. The students' attitudes toward life were also enhanced through the theme learning.

Life education values

The Life Education Values Scale was developed by the researchers. Before the instruction, a pretest of life education values was conducted. After the instruction, a posttest was administered. Paired-sample t-test and the students' attitudes toward life education were analyzed. The statistical results show that the mean differences between pretest and posttest for life phenomenon, harmony between nature and human beings, life meaning and value, and the total score ($M=-7.24, -6.17, -6.48, 16.90, t=-4.86, -8.20, -6.58, -7.59, p=.000 < .05$) have reached significance level and the posttest scores are higher than the pretest scores, indicating students' life education values are significantly different after the life education course.

After the experimental instruction, the students made significant progress regarding life phenomenon (from birth to death), harmony between nature and human beings, life's meaning and value, and their total scores. These findings are consistent with Yu (2002), Wu (2004), and Nian (2009), who suggested that the students' attitudes toward life will be enhanced in these courses. After completing the life education course, the students make significant progress on the themes of "Life phenomenon (from birth to death)," "Harmony between nature and human beings" and "Life's meaning and value." Additionally, the students' attitude toward weekly themes of life education grows and changes. Therefore, the blog-assisted life education course enhanced the fifth grade elementary school students' life education values and is worth being implemented.

The effectiveness of implementing the life education course

The effectiveness of implementing the life education course was evaluated through the students' feedback on the blog-assisted life education course, learning attitudes toward elementary school blog-assisted life education, learning effectiveness, learning sheets, blogs articles, and interview records.

The students' feedback on blog-assisted life education

According to the students' feedback, the researchers changed the students' feelings toward life education. In total, 17 subjects (58.63%) extremely enjoyed the life education course, 11 subjects (37.93%) moderately enjoyed it, and 1 subject (3.44%) did not enjoy it. The reasons for the enjoyment included the opportunity to play on computers, acquiring knowledge, watching films on blogs, recognizing personal advantages and disadvantages through group discussions, learning interesting content, and avoiding the noon break. The reasons for disliking the course included the writing of learning sheets, the noise made by the group members, and concern about the members' lack of opinions after sharing the outlines and the learning. The order of the instructional methods favored is as follows: film watching, blog activity, experiential activity, group discussion, drama performance, feedback, teachers' explanation, briefing of illustration, discussion of questions, and filling out learning sheets. The students' favorite topics from the 10 in the course are "No more vagabond life" and "I am a little volunteer." Table 2 shows the analysis on what the students have learned from the 10 themes.

Table 2: Things the students learned in each theme

Themes	Things the students learned
Song of life	We realize the hard work of pregnant mothers. We should show filial obedience to parents and cherish life.
Who I am	They should control their temper to have more friends.
It is good to have you	We understand the natural physical and psychological changes of the elderly and get along with them.
Love is	We accept disabled people and help them persist in the face of difficulty.

 everything

No more vagabond life	Once owners decide to raise a pet, they should not abandon it. They should care for it to avoid the burden on family and society.
It is not my fault	We should not run away from problems, and we should admit when we make the mistakes. We should not be indifferent to familial, societal or environmental problems.
Warming earth	The earth is sick, and the consequences of human action will be frightening. There are continuous disasters that can harm everyone on earth. We should save energy and carbon.
I am little volunteer	Service is the purpose of life. Volunteers do not ask for anything in return for their service. We appreciate their devotion and sacrifice.
Pass love forward	If everyone shares his or her love, society will be filled with love.
Dreams come true	Death is not frightening as long as we have dreams. People should set goals for life and strive to meet them.

Analysis of the blog-assisted life education learning attitude scale

This scale includes collaborative learning attitudes, attitude toward blog use, and overall learning attitude. The mean of collaborative learning attitude was 57.28, SD=2.202, mean=4.77. The mean of attitude to blog use was 42.79, SD=1.66, mean=4.75. The mean of learning attitude was 100.07, mean=4.77, SD=3.525. All items obtain a mean of 4 or above, indicating that the students' attitude toward life education is enhanced and highly positive. Thus, further performing One-sample t test, the results show that p values are .000, reaching a significance level of .05. The results indicate that the students' collaborative learning attitudes, attitudes toward blog use, and overall learning attitudes are significantly enhanced. These results are supported by Shen (2001), Mao (2003), Shen (2005), Yang (2006), and Wells (2006), suggesting that collaborative learning can enhance learning effectiveness. In other words, combining blog-assisted life education instruction with collaborative learning can enhance the students' interactions and knowledge of life education as well as their positive attitudes toward the blog-assisted life education instruction. Through group discussions and collaborative learning with classmates allow the students to acquire knowledge and establish harmonious interpersonal relationships. In addition, using blog-assisted life education enables the students to think creatively and innovatively and to improve their writing skill and learning attitude significantly.

Analysis of the blog-assisted life education learning effectiveness scale

This scale includes information literacy and competence, course satisfaction, and overall learning effectiveness. The statistical results show that the item means and standard deviations of information literacy and competency, course satisfaction, and overall learning effectiveness are 4.75, 4.74, and 4.74(SD=2.079, 2.216, and 3.905) respectively. Additionally, p values for students' information literacy and competence, course satisfaction, and overall learning effectiveness are .000, which reached a significance level of .05. These results show that the students' information literacy and competence, course satisfaction, and overall learning effectiveness are significantly enhanced. After the experimental instruction, students' information literacy and competence, course satisfaction, and overall learning effectiveness were significantly higher than the test value of 4. This findings are supported by Liao (2007) and Su (2008), suggesting that using technology increases information literacy and competence. These results show that blog-assisted life education instruction is effective for information literacy and competence. In summary, the students learned life education through searching online information and sharing their opinions and searched information with peers, and thus learned to get along with classmates well. As a result, the learning effectiveness of blog-assisted life education is significant.

Analysis of work

The researchers selected the work and analyzed the characteristics of the students' learning sheets and the blog articles by the different groups according to the themes shown in Table 3.

Table 3 Analysis of learning sheets, blog articles and teachers' comments in each unit.

Themes	Learning sheets	Teachers' comments on learning sheets	Blog articles	Analysis of blog articles
Song of life		Students should be more thoughtful and learn from experience.		Students in the first group realize that mothers endure pain and inconvenience to protect the child's safety.
Who I am		Tears and anger cannot solve problems.		Students in the second group realized that the ill-tempered people form unhealthy interpersonal relationships. When encountering difficulties, we should face them bravely and try to find solutions.
It is good to have you		Everyone will get old. We should deal with the natural life cycle calmly and be considerate of one another.		Students in the third group suggested that although there is generation gap between the grandfather and grandson, the family love is solid.
Love is everything		With tolerance, sympathy and love, society will be harmonious.		Students in the fourth group realized that when encountering obstacles, disabled people show courage and we should emulate their persistence.
No more vagabond life		It is heartwarming to see the deep affection between human beings and dogs.		Students in the fifth group pitied the stray dog. The dogs in the animal shelter will receive a mercy killing. The students appreciate the rule about owning pets: "don't abandon them once raising them."
It is not my fault		Communicate with each other and face things bravely. Everything will be just fine.		Students in the sixth group concluded they should "deal with frustration bravely and value precious life; committing suicide is irresponsible."

Warming earth 	The future of the earth is disconcerting. 	Students in the seventh group realized that the earth is sick and that we should value environmental protection to avoid continuous natural disasters.
I am the little volunteer 	Environmental cleanliness is everyone's responsibility. 	Students in the first group recognized and appreciated the volunteers' devotion.
Pass love forward 	The teacher appreciates thoughtfulness. 	Students in the second group realized that they should share their love and that the power of love can be infinite.
Dreams come true 	Construct a life goal and be persistent in attaining it. Then dreams will come true. 	Students in the third group realized that life has four seasons. They should seize the day to lead an exciting life.

Interview outcome and instructional reflection

Results of interviews

In order to assess the 5th grade students' attitudes and values toward life education after participating in a blog-assisted life education course, seven students were randomly selected for individual interviews. A semi-structured interview questionnaire was employed to explore the students' feeling, attitude, and opinions about the implementation of the blog-assisted life education course. Regarding the blog-assisted life education course, the students suggested that they had absorbed knowledge of life and recognized the values of life and the satisfaction that comes with helping others. In terms of group cooperation, the students learned the importance of helping each other and enhanced their information competence. In group discussions on blogs, the students learned to search for information, integrate knowledge, and use blogs. They also learned to listen to other students' thoughts and accept different opinions. By sharing, they absorbed knowledge, built friendships, and cultivated a spirit of teamwork. In life education instruction, the students suggested that the most significant thing they learned was to recognize the value of life and enhance their information competence, friendships, and self-growth.

Instructional reflection

The arrangement of instructional time and selection of films: two instructional hours included watching films, answering questions, and participating in discussions and experiential activities. One session involved blog publication and sharing. There was one theme each week. Triggering the students' motivation usually wastes too much time; therefore, the time spent watching the film was reduced. Four sessions would be more appropriate. Dull or long films usually bore the students. Entertaining films are more effective. Thus, choosing proper film for 5th graders was important and critical for this study.

The students' differences and class operation: in the experimental instruction, the difference between the groups was gradually revealed. There were some special students in this study, and grouping can never be perfect. Therefore, some of the groups were very cooperative while others continued to have disputes. At the beginning

of the experiment, the blog instruction was slow and confusing. The researcher spent a great deal of time and effort on class operation. The effectiveness of and the students' attitudes toward the unit might improve if the blog instruction were implemented in the second semester.

The students' value clarification and multiple evaluations: regarding the students' questions, the instructor should immediately clarify the values. The students may be influenced by their peers or follow their classmates blindly. Once the students have incorrect concepts, they should be guided using the force of the group and the teachers' clarification of values. The students' self-evaluation or mutual evaluation may illuminate their learning obstacles and allow the researchers to help them.

Activity planning and design of learning sheets: experiential activities in each unit will help the students realize and achieve the educational purpose. Students are afraid of writing too many words and drawing beautiful illustrations. To reduce the burden placed on the students, this study did not ask them to draw the illustrations, which resulted in a dull layout. The illustrations might be better included in the future.

The ideal model after revision

Figure 5 shows an ideal model for a blog-assisted life education course. The descriptions of the model are described as follows.

1. Preparation: According to the research purposes and recent news related to life education, to construct the most proper life education course for students, the researcher's design the topic and then revise it after discussion with colleagues. To allow students to successfully share learning on the blogs, teachers must be familiar with blog use and functions. Using heterogeneous grouping and considering special students' physical and mental development, teachers should properly arrange the course for group discussion and blog instruction.
2. Implementation: Film watching and experiential activities should be implemented first. The instructor posed the related questions and clarify them through discussion will enable groups to reorganize the thematic aims and learning objectives from activities. Once they are in computer classrooms, they publish the outlines and what they have learned on blogs. Based on the group leader's decision, members take turns sharing what they have learned. Then, the instructor observed the interaction between groups and assisted them. Once they were finished, the groups read the articles written by other groups and share their comments. Finally, the groups revised the articles according to the instructor's comments.
3. Finish: Instructional films, learning sheets, instructional data, activity photos, and portfolios are placed on the blogs for students to browse at any time.

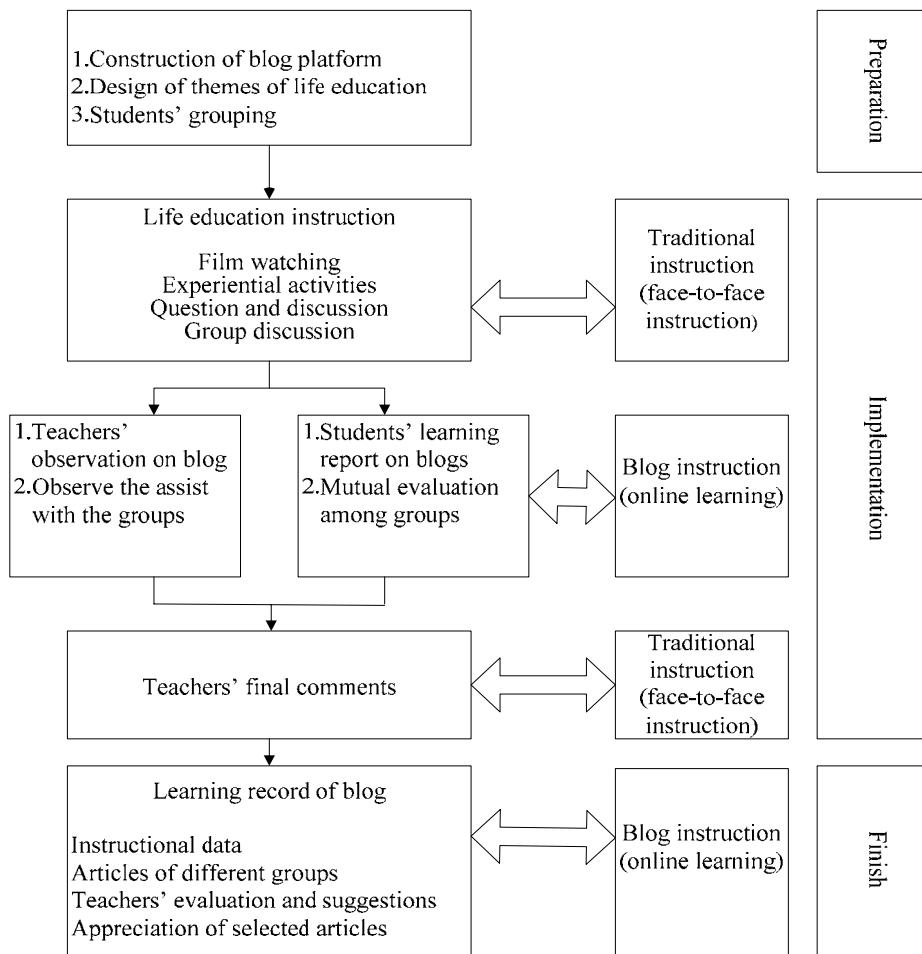


Figure 5: The ideal instruction model of blog-assisted instruction for life education.

CONCLUSION AND SUGGESTIONS

Conclusion

After the experimental instruction, the students understood the inevitability of death and were not afraid of the issue anymore. Instead, the students could get along with classmates, recognize the ways they differ from others, understand the phenomenon of life (from birth to death), pursue harmony between nature and human beings, and understand life's meanings and values. These findings are consistent with Yu (2002), Wu (2004), and Nien (2009), who suggested that attitudes toward life will be enhanced with life education courses. In other word, the blog-assisted life education instruction is effective and can enhance the fifth grade elementary school students' life education values.

Regarding learning attitudes, the students obtained more knowledge through discussions on blogs. Through blog-assisted life education instruction, the students realized the importance of collaborative learning. The group members created innovative ideas by brainstorming to enhance their learning effectiveness and saved photos, films, and learning sheets. The results are also consistent with Shen (2001), Mao (2003), Shen (2005), Yang (2006), and Wells (2006), who suggested that collaborative learning can enhance learning effectiveness and that attitudes toward blog use would enhance learning effectiveness. The students appreciated the blog-assisted life education instruction. Also, through group discussions and collaborative learning, they obtained knowledge and formed harmonious interpersonal relationships with others.

Regarding learning effectiveness, the students suggested that complete information allowed them to solve the problems. They also learned to reorganize information without copying other articles and were able to distinguish useful information according to the instructor's requirements. These results are consistent with Liao (2007) and Su (2008), who suggested that through technology, students' information competence is enhanced. Therefore, the blog-assisted life education instruction is effective for the fifth grade students. During the implementation of blog-assisted life education, the students' life attitudes have grown and changed according to

the weekly themes. Also, the students learned to respect and communicate with each other through collaborative learning and meanings and values of life after this class. Furthermore, the students learned life education through searching online information and sharing their opinions and searched information with peers, and thus learned to get along with classmates. As a result, the learning effectiveness of blog-assisted life education is significant.

Suggestions

Learning for students in higher grades differs from that of intermediate grade students. Mediocre and lazy students could be frustrated. Life education in this course is effective because the students can learn to recognize and cherish themselves, respect and tolerate others, care for the elderly and others, have concern for the disabled, establish life goals, and realize the natural cycle from birth to death. If religion related topics were included, the course could be more complete. Therefore, if the authority can construct life education platforms, and it will allow students to learn life education effectively and the educational goals would be achieved afterwards. Furthermore, life education should be included in formal courses so that the students will be able to develop positive attitudes toward life when they are young. Thus, students will respect and cherish themselves, other people, society, family, nation, and nature and will avoid social catastrophes and tragedies. An increase in experiential activities will complete life education courses. Students will recognize that the instruction and learning are more effective. Finally, life education should not be limited to some classes but integrated into all kinds of courses and advocated in our daily life.

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